

ABSTRACT

A composite insulating adhesive tape is made of unhalogenated materials with superior insulation properties. The composite insulating tape has an embossed reinforcing polymer layer, a first flexible layer and an adhesive layer. The first flexible layer is used to improve the flexibility and conformity of the composite insulating adhesive tape, while the adhesive layer is used to make the insulating adhesive tape adhere tightly to an object. A method for forming the composite insulating adhesive tape is also disclosed. The first flexible layer is a material with a draw ratio at 20°C that is below 400%. The embossed reinforcing polymer layer is first milled using a pressing and rolling process to form pores that are randomly distributed throughout the embossed reinforcing polymer layer. This enhances the flexibility of the embossed reinforcing polymer layer.